

(19)

Europäisches Patentamt
European Patent Office
Office européen des brevets



(11)

EP 0 836 944 A3

(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3:
16.12.1998 Bulletin 1998/51

(51) Int Cl.⁶: B41J 2/06

(43) Date of publication A2:
22.04.1998 Bulletin 1998/17

(21) Application number: 97308196.1

(22) Date of filing: 16.10.1997

(84) Designated Contracting States:
AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC
NL PT SE

Designated Extension States:
AL LT LV RO SI

(30) Priority: 16.10.1996 KR 9646260

(71) Applicant: Samsung Electronics Co., Ltd.
Suwon-city, Kyungki-do (KR)

(72) Inventor: Ahn, Byung-sun
Kwonsun-gu, Suwon-si, Kyungki-do (KR)

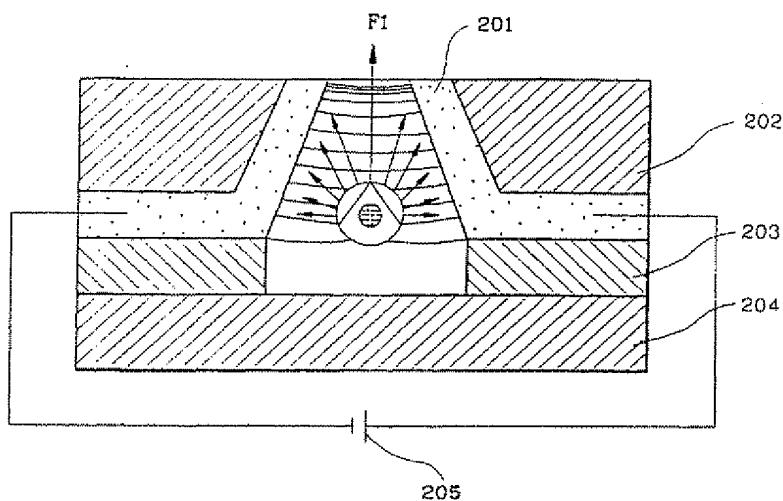
(74) Representative: Tunstall, Christopher Stephen
Dibb Lupton Alsop,
Fountain Precinct
Balm Green, Sheffield S1 1RZ (GB)

(54) Ink-jet printing using dielectric migration force

(57) An ink-jet printing method is described. An ink chamber having an orifice through which ink may be ejected is charged with an ink containing polarizable pigment particles. A potential (205) is applied across a pair of electrodes (201) to establish an electric field within

the ink chamber to polarize the ink particles. The electric field lines are curved (i.e. the field strength increases in the direction of the ink ejection orifice) so as to exert a dielectric migration force on the polarized ink particles. This causes ink to be ejected through the orifice onto a print medium.

FIG. 7





European Patent
Office

EUROPEAN SEARCH REPORT

Application Number

EP 97 30 8196

DOCUMENTS CONSIDERED TO BE RELEVANT		
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim
X	US 5 144 340 A (HOTOMI HIDEO ET AL) 1 September 1992	1-10,12, 13,15-20
A	* column 4, line 63 - column 8, line 41 * * column 15, line 9 - column 17, line 54 * * column 18, line 46 - column 19, line 59 * * column 23, line 65 - column 24, line 45; figures 1-3,15-17 * * figures 20,21,28,29 *	11,14
X	US 4 717 926 A (HOTOMI HIDEO) 5 January 1988	1-9, 15-19
A	* column 2, line 24 - column 5, line 33; figures 1-6 *	10-14,20
X	PATENT ABSTRACTS OF JAPAN vol. 015, no. 053 (M-1079), 7 February 1991	1-9,12, 15-19
A	& JP 02 286348 A (MINOLTA CAMERA CO LTD), 26 November 1990 * abstract *	10,11, 13,14,20
X	EP 0 488 113 A (MATSUSHITA ELECTRIC IND CO LTD) 3 June 1992	1-4, 6-10, 15-19
A	* column 5, line 9 - column 6, line 55; figures 2-4 *	5,11-14, 20
X	PATENT ABSTRACTS OF JAPAN vol. 017, no. 648 (M-1518), 2 December 1993	1-4,6-9, 15-19
A	& JP 05 208500 A (MATSUSHITA ELECTRIC IND CO LTD), 20 August 1993 * abstract *	14
The present search report has been drawn up for all claims		
Place of search	Date of completion of the search	Examiner
MUNICH	26 October 1998	Widmeier, W
CATEGORY OF CITED DOCUMENTS		
X : particularly relevant if taken alone	T : theory or principle underlying the invention	
Y : particularly relevant if combined with another document of the same category	E : earlier patent document, but published on, or after the filing date	
A : technological background	D : document cited in the application	
O : non-written disclosure	L : document cited for other reasons	
P : intermediate document	& : member of the same patent family, corresponding document	